

Application Number 09/873,933
Responsive to Office Action mailed July 21, 2006

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REMARKS

Claims 1-3, 37-45 and 47-63 are pending. However, claims 38, 42 and 45 have been withdrawn from consideration. Applicant amended withdrawn claim 38 to correct antecedent basis and amended the term "physical location" in claims 1, 48, 49, 56, 62 and 63 to "geographic location". Applicant also amended claim 63 to specify the subscriber is a human subscriber.

Insufficiency of the Office Action

Applicant objects to the Office Action as failing to meet the standard set out in 35 U.S.C. 132(a). This statute requires that the Office Action provide "reasons for [a] rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application."¹ Applicants submit that the Office Action dated July 21, 2006 fails to meet this standard as it failed to even address each element recited in the independent claims as currently pending. Instead, many portions of the Office Action dated July 21, 2006 copy verbatim portions of prior Office Actions in which the pending claims recited different limitations than those currently recited. For example, in the rejection of claim 1, the Office Action stated that Mulcahy teaches "transmitting a location code via the network to a central repository".² In contrast, claim 1, as currently pending recites, "transmitting the location code and a subscriber unit identifier via the network to a central repository". The Office Action failed to explain how the cited references teach this element. This is only one example of how the Office Action dated July 21, 2006 fails to consider claim amendments and their applicability of the cited references.

As another example, the Office Action failed to address significant differences between the elements of the independent claims. Instead, the Office Action has only addressed elements of a prior version of claim 1. Independent claim 63 is similar to independent claim 1, but includes additional elements: prompting an installer to manually input a location code associated with a subscriber into the subscriber unit, the location code permitting identification of a physical location of the subscriber, wherein the subscriber unit is located at the physical location of the subscriber, transmitting the location code and a subscriber unit identifier from the subscriber unit

¹ 35 U.S.C. 132(a).

² Office Action, page 3.

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to a central repository via the network, and correlating the subscriber unit with the physical location based on the location code and the subscriber unit identifier. None of these additional elements in claim 63 relative to claim 1 were considered in the Office Action dated July 21, 2006.

Furthermore, the Office Action failed to respond to Applicant's arguments in the response dated May 11, 2006, stating that the arguments have been considered, but are moot in view of the new grounds of rejection.³ However, the Office Action maintained exactly the same grounds of rejection as in the Final Office Action dated January 11, 2006. Instead of providing a new grounds of rejection, the Office Action added additional grounds of rejection by stating Budhreja (5,935,209) could be used in place of Dolin, Jr. et al (5,420,572 hereinafter Dolin). For this reason, each of Applicant's arguments in the response dated May 11, 2006 are still applicable.

The Office Action dated July 21, 2006 fails to relate each grounds of rejection to the claims as currently pending or to even separately address distinct elements in the independent claims. For at least these reasons, the Office Action has clearly failed to provide a prima facie case of obviousness as required to support the rejections under 35 U.S.C. §103(a). In the event that the Examiner continues to reject any of the Applicant's claims, Applicant respectfully submits that the next Office Action must be non-final.

In the comments below, Applicant has provided numerous reasons, each sufficient to stand on its own, why the Mulcahy, Dolin and Budhreja references do not support a prima facie case of obviousness under 35 U.S.C. §103 with respect to the currently pending claims. If the Examiner continues to apply Mulcahy, Dolin and/or Budhreja in a rejection, Applicant respectfully requests that the Examiner address each of Applicant's arguments as set out in this response.

Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-2, 37, 39-41, 44, 47-52, 55-59, 62 and 63 under 35 U.S.C. 103(a) as being unpatentable over Mulcahy et al. (6,002,746 hereinafter Mulcahy) in view of Dolin, Jr. et al or Budhreja. The Examiner also rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Mulcahy in view of Dolin or Budhreja, and further in

³ Office Action, page 7.

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view of Kennedy et al (US 6,163,594 hereinafter Kennedy), and rejected claims 43, 53, 54, 60 and 61 under 35 U.S.C. 103(a) as being unpatentable over Mulcahy in view of Dolin or Budhraj and further in view of Steinbrenner et al (US 6,754,310 hereinafter Steinbrenner). Applicant notes the clerical error in the Office Action, which does not list claims 62 and 63 as being among those rejected in the first sentence of section 1 on page 3. Applicant respectfully traverses the rejection. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

The Office Action failed to explain the applicability of Budhraj to the rejections.

In the current Office Action, the Examiner supplemented the rejections in the Final Office Action dated January 11, 2006 by stating that Budhraj may be used in place of Dolin. However, the Office Action failed to describe any significance of Budhraj with respect to the pending claims or the other cited references other than to state, "Budhraj teaches (see figure 9) that physical location information allows test person to easily locate equipment and facilities operation and maintenance."⁴ From this statement, it is not apparent to Applicant how Budhraj relates to the other cited art or to any of the rejections invoking Budhraj. In the event the Examiner continues to apply Budhraj against any of the Applicant's claims, Applicant respectfully requests that the Examiner clearly explain its applicability.

Furthermore, Applicant notes that Budhraj fails to overcome the deficiencies in Mulcahy as set out below. For example, Budhraj fails to teach or suggest a location code permitting identification of a physical location of the subscriber. Budhraj fails to teach or suggest a location code permitting identification of a physical location of the subscriber. Likewise, Budhraj does not teach or suggest transmission of both a location code and subscriber unit identifier to a central repository.

Budhraj is directed to flow-through provisioning of telephony and broadcast services from a central location. See, col. 17, lines 39-64. Budhraj fails to teach or suggest any techniques for correlating a subscriber unit to a physical location. Instead, the disclosure of Budhraj is devoted to operating within the logical framework of an operational network. While

⁴ Office Action, page 3.

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FIG. 9 illustrates subscriber site representations A30, Budhrajia does not teach or suggest physical location information relating to subscriber site representations A30 or otherwise. For at least this reason, Budhrajia also fails to teach or suggest a location code that permits identification of a physical location of a subscriber. In this manner, Budhrajia fails to overcome the clear deficiencies of Mulcahy as described by the Applicant in previous communications and reiterated below.

Claims 1, 2, 37, 39-41, 44, 47-52, 55-59, 62 and 63

With regard to independent claims 1 and 63, Mulcahy in view of Dolin or Budharaja fail to teach or suggest method for correlating a subscriber unit in a point to multipoint network with a physical location, the method including prompting an installer to manually input a location code associated with a subscriber, the location code permitting identification of a physical location of the subscriber, receiving the location code in the subscriber unit, transmitting the location code and a subscriber unit identifier via the network to a central repository and storing the location code and the subscriber unit identifier in the central repository to correlate the subscriber unit with the physical location.

In support of the rejection, the Examiner cited Mulcahy (at Col. 7, lines 64-67), as disclosing prompting an installer to manually input a location code associated with a subscriber unit, and receiving the location code in the subscriber unit. The Examiner apparently considered the terminal number in Mulcahy to be a location code, as claimed. The Examiner further characterized Mulcahy as disclosing transmitting a location code via a network to a central repository (citing Col. 7, lines 29-32), and storing the location code in the central repository to associate the location code with a physical port (citing Col. 8, lines 7-9).

In rejecting claims 1-2, 37, 39-41, 44, 47-52, 55-59, 62 and 63, the Examiner correctly recognized that Mulcahy fails to teach or suggest all of the elements recited in the independent claims. In particular, the Examiner admitted that Mulcahy fails to teach transmitting a location code and a subscriber unit identifier to a central repository. However, the Examiner concluded that Dolin or Budharaja teaches these elements and that it would have been obvious to modify Mulcahy to include them.

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Applicant disagrees with the conclusion of obviousness for a number of reasons. The rejection seems to have overlooked limitations expressed in the claims, and misinterpreted the scope and content of the Mulcahy, Dolin and Budharaja references. The terminal number described by Mulcahy clearly is not a location code as defined by Applicant's claims, as it provide no indication of a physical location of a subscriber. In addition, the node identifier described by Dolin does not conform to the requirement of a subscriber unit identifier in the claims. Further, modification of the Mulcahy system to transmit a location code and a subscriber unit identifier to a central repository per Dolin or Budharaja would serve no purpose in the Mulcahy system. Applicant discusses each of these points with respect to the pending claims in greater detail below.

Mulcahy in view of Dolin does not teach or suggest a location code.

It appears that the rejection overlooked the actual language of the claims to the extent that a location code permits identification of a physical location of a subscriber. The Examiner's analysis did not make reference to this requirement. Instead, the Examiner referred to language in a previous version of the claims, i.e., a physical port. The Examiner made the same erroneous reference in the Final Office Action dated January 11, 2006.

In the Office Action, the Examiner cited Col. 7, lines 64-67, of Mulcahy as disclosing receiving a location code in a subscriber unit. In the cited passage, however, Mulcahy states that an engineer may be prompted to enter a "node number" and a "terminal number." Neither the node number nor the terminal number discussed by Mulcahy constitutes a location code that permits identification of a physical location of a subscriber, as set forth in Applicant's claims. In Mulcahy, the node number is simply a number assigned to a node within an access network. The terminal number in Mulcahy merely identifies a terminal through which a terminal line passes, without regard to a physical location of a subscriber. This is evidenced by the fact that the route of a terminal line may be physically moved from a first pair of terminals within the node to a second pair of terminals in the node without affecting the location of the subscriber associated with that terminal line. Clearly, neither a node number nor a terminal number permits identification of a physical location of a subscriber as recited in Applicant's claims.

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Dolin provides no teaching that would have suggested modification of Mulcahy to provide a location code within the context of the claims. As in Mulcahy, the location code described by Dolin does not permit identification of a physical location of a subscriber. According to Dolin, a network node is characterized by a node_id, a node type, and a location code. The node_id is a unique identifier of the node, and is assigned at the time of manufacture. The node type is likewise assigned by the manufacturer. The location code is assigned, however, by a system installer. See, e.g., Col. 11, lines 42-49.

In Dolin, the location code assigns the node to a particular group or subnet. See, e.g., Col. 11, lines 42-49. Accordingly, the location code described by Dolin does not relate to a physical location. Dolin makes no mention of the use of a physical location of a subscriber associated with a node. Indeed, there appears to be no concept of nodes and associated subscribers in the Dolin reference. In other words, none of the nodes described by Dolin appears to be any form of a subscriber unit.

Furthermore, even if a location code permitting identification of a physical location of a subscriber were contemplated in Dolin, a node communicates the node_id and node type to a handheld controller, and the handheld controller assigns the location code to the node. The node does not transmit such information to a central repository via the network to correlate a subscriber unit with the physical location of a subscriber as recited in Applicant's claims 1 and 63.

Mulcahy in view of Dolin does not teach or suggest transmission of both a location code and subscriber unit identifier.

Even if Mulcahy in view of Dolin were considered to disclose a location code within the context of the claims, which Applicant disputes, one of ordinary skill in the art would have considered the concept of a subscriber unit identifier to be meaningless in the Mulcahy system. A subscriber unit identifier uniquely identifies a subscriber unit in a point-to-multipoint network in which multiple subscribers receive the same information via a common link. Using subscriber unit identifiers, information sent via the common link can be differentiated. In this manner, a subscriber unit can determine whether a particular unit of information is relevant to the associated subscriber. If the information is relevant, the subscriber unit accepts the information

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from the common link. If the information is not relevant, the subscriber unit ignores it. The correlation of a subscriber unit with a physical location permits information to be differentiated for delivery to the appropriate subscriber.

When a subscriber unit is installed in a point-to-multipoint network, as claimed, there is no a priori knowledge as to the physical location of the subscriber unit. Although a subscriber unit may have a unique identifier, the subscriber unit can be located at any one of the physical locations served by the multipoint network. Consequently, there is a need to correlate the subscriber unit with a physical location of the subscriber so that services can be provisioned for the subscriber. As described in Applicant's specification, a passive optical network (PON) is one example of a point to multipoint network. In some embodiments, the subscriber unit may be an optical network unit (ONU) in a PON.

As discussed in Applicant's previous response, even though a subscriber unit may be known by the point-to-multipoint network, e.g., according to a subscriber unit identifier such as a serial number, the identity of the particular subscriber and physical location of the subscriber associated with the subscriber unit remains unknown. In particular, multiple subscribers are served by the same transmission line. In other words, there are no point-to-point connections such as terminals or nodes that would permit identification of subscribers according to a separate line that terminates with the subscriber.

Different subscribers, situated at different physical locations, may request different types or levels of service. Because many of the subscriber units are connected to the same transmission line, however, they cannot be readily distinguished based on a subscriber unit identifier alone. In accordance with the claimed invention, correlation of each subscriber unit with a subscriber's physical location via a location code permits provisioning of services for a particular subscriber. Even though two subscriber units may be coupled to the same transmission line, e.g., an optical fiber link, it is possible to differentiate them by correlation of a subscriber unit identifier with a subscriber's physical location.

In contrast, Mulcahy applies to a telecommunications network that is fundamentally a point-to-point network. The disclosure of Mulcahy refers to an active terminal line, e.g., a telephone line, in which terminal equipment is already associated with a calling line identity, e.g., a telephone number. In other words, a telephone number already exists in the Mulcahy network

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and is physically correlated with the terminal equipment. Because the Mulcahy network is point-to-point, the physical location of each endpoint is knowable in advance of the installation of the subscriber unit, and can be maintained in a routing table. Because of the size and complexity of the routing table and the possibility of human error⁵, Mulcahy is directed to recording the physical route of an active line through a local switch for which a telephone number already exists to correct mistakes. The claimed invention, on the contrary, deals with point-to-multipoint networks where the physical location of a subscriber unit is not known and indeed is unknowable prior to installation.

Because Mulcahy describes a point-to-point network, there is no need for a subscriber unit identifier. Moreover, modification of Mulcahy to transmit both a location code and a subscriber unit identifier would make no sense. In the system of Mulcahy, information is directed to terminal equipment by simply routing the information to the terminating line associated with the terminal equipment. Each terminating line can be identified with just a telephone number. No other information, such as a separate subscriber unit identifier, is required to ensure that terminal equipment only processes relevant information because all information sent via a terminal line is presumably relevant to the terminal equipment on that terminal line.

Mulcahy fails to disclose a subscriber unit identifier, and the system described in Mulcahy has no purpose for a subscriber unit identifier. No prior art reference, including Dolin and Budharaja, would provide one of ordinary skill in the art motivation to modify the Mulcahy system to include transmitting the location code and a subscriber unit identifier as recited by claims 1 and 59. Indeed, one of ordinary skill in the art would consciously avoid such a modification because it would be meaningless in the Mulcahy system.

While the transmission of a subscriber unit identifier in the Mulcahy system would not serve any purpose, the Examiner nevertheless cited Dolin or Budharaja for such a teaching. In particular, the Examiner characterized Dolin as teaching a configuration device that allows communication of information identifying a network node and node type to the device so that a network can be easily configured. The Examiner further stated that Dolin uses a unique identifier for installation and maintenance of the network, and allows an installer to enter location codes so that the location, node identification and node type may be used for configuration of the network.

⁵ Mulcahy et al., Col. 1, lines 25-30 ("such routing tables are often not accurate").

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As mentioned above, the Examiner did not explain how Budharaja would have made transmitting both a location code and a subscriber unit identifier to a central repository obvious in like of Mulcahy.

The Examiner concluded that it would have been obvious to modify the Mulcahy system in view of Dolin in order to quickly identify nodes that may be malfunctioning or have not been configured. This argument does not make any sense. Mulcahy does not discuss configuration of node, and it is not apparent how a node in Mulcahy would be configured as it simply provides an electrical path for terminating lines. This is in contrast to Dolin, in which the nodes include relatively complex circuitry and are operable to communicate with other nodes in a communication network. The nodes in Mulcahy are equivalent to the nodes in Dolin by name only. For this reason, Dolin provides no teaching that could be used to modify Mulcahy to quickly identify nodes that may be malfunctioning or have not been configured.

For at least these reasons, Mulcahy and Dolin do not support a prima facie case of obviousness under 35 U.S.C. §103 with respect to claims 1-2, 37, 39-41, 44, 47-52, 55-59, 62 and 63.

In view of the basic deficiencies discussed above, even if Mulcahy could be modified in view of Dolin, the result would not conform to the requirements of the claims. In particular, neither Mulcahy nor Dolin suggests prompting an installer to manually input a location code associated with a subscriber, wherein the location code permits identification of a physical location of the subscriber, as set forth in claims 1 and 63. Mulcahy and Dolin also would not have suggested receiving a location code associated with a subscriber that permits identification of a physical location of the subscriber, as set forth in claims 49 and 56.

In addition, Mulcahy and Dolin fail to suggest transmitting a location code and a subscriber unit identifier via a network to a central repository, and storing the location code and the subscriber unit identifier in the central repository to correlate the subscriber unit with a physical location, per claims 1 and 63. Similarly, Mulcahy and Dolin provide no teaching that would have suggested transmitting the location code and a subscriber unit identifier to a remote device for correlation of the location code with the physical location, per claims 49 and 56.

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For at least these reasons, the Mulcahy and Dolin references, whether taken alone or in combination, do not support a prima facie case of obviousness under 35 U.S.C. §103 with respect to claims 1-2, 37, 39-41, 44, 47-52, 55-59, 62 and 63. In view of the basic deficiencies identified above, Applicant reserves comment concerning the additional limitations set forth in the claims, but in no way admits or acquiesces in the propriety of the Examiner's analysis with respect to such limitations.

Claim 3

Claim 3 is allowable for at least the reasons discussed above with respect to claims 1 and 2. Moreover, claim 3 further requires prompting the installer to reinput a location code. None of the applied references provide teaching that would have suggested this requirement of claim 3.

The Office Action acknowledged that Mulcahy in view of Dolin or Budharaja does not show prompting the installer to reinput a location code. However, the Office Action stated that, if an error is detected, a field engineer can be instructed to perform appropriate operations to correct the error, referring to Col. 8, lines 19-22, of Mulcahy. However, the error referred to in Col. 8, lines 19-22, is an error in routing, and not an error in entry of a location code, as required by claims 2 and 3.

Reinputting a location code would not fix an error in routing of a terminating line or any other errors disclosed in Mulcahy. Therefore, one of ordinary skill in the art would have found no motivation to modify the Mulcahy system to include the feature of prompting an installer to reinput the location code, as recited by Applicant's claim 3, from Kennedy or any other prior art of record.

The Examiner cited Kennedy as allowing a "craftsperson" to re-input a correct directory number. The directory numbers discussed by Kennedy are associated with bearer channels, and are derived automatically from pre-established SPIDs. Therefore, Kennedy does not contemplate correction of errors in numbers entered by an installer. Moreover, Kennedy does not disclose prompting an installer to reinput a location code associated with a subscriber.

For at least these reasons, the applied references to establish a prima facie case for non-patentability of Applicant's claim 3 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

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Claims 43, 53-54 and 60-61

The Examiner failed to establish a prima facie case for non-patentability of claims 43, 53-54 and 60-61 for at least the reasons discussed above with respect to independent claims 1, 49 and 56. Steinbrenner provides no teaching sufficient to overcome the basic deficiencies already identified in Mulcahy in view of Dolin or Budharaja. Applicant neither acknowledges nor acquiesces in the propriety of the application of Steinbrenner to the invention defined by claims 43, 53-54 and 60-61. Applicant reserves comment concerning Steinbrenner in view of the clear deficiencies of Mulcahy in view of Dolin or Budharaja.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 1-3, 37, 39-41, 43, 44 and 47-61 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

CONCLUSION

All claims in this application are in condition for allowance. Applicants respectfully request reconsideration and prompt allowance of all pending claims. Applicants do not acquiesce with any of the Examiner's current rejections or characterizations of the prior art, and reserve the right to further address such rejections and/or characterizations.


No fees are believed to be due at this time. Please charge any additional fees or credit any overpayment to deposit account number 50-1778.

The Examiner is invited to telephone the below-signed attorney to discuss this application.

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November 7, 2006
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